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ABSTRACT

Adult literacy (AL) programs in Pennsylvania, New York, Delaware, North Carolina, Illinois, and California were surveyed in Spring 1994 to identify the extent and scope of computer technology use in AL programs. Of the 515 responding programs, 82% used computers for administrative activities, 66% for instructional activities, 31% for student assessment, and 26% for networking activities. Only 44% of literacy volunteer organizations used computer technology for instruction as opposed to 88% of programs administered by community colleges and 76% of those administered by public schools. Most AL programs, regardless of program type or budget size, planned to expand their use of computers. Among the obstacles mentioned as inhibiting more extensive computer use in AL programs were lack of financial support, lack of adequate staff/instructor training, and inadequate time for staff to learn to use computers. The reported benefits of computer technology in AL included positive effects on student learning, availability of immediate and nonthreatening feedback, and improved quality of instruction. The extent of student access remained an issue, and amounts/types of computer technology used varied among AL programs. Acceptance of new technologies such as multimedia appeared to be increasing. (MN)

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Voices From the Field: The Use of Computer Technology in Adult Literacy

*The Results of a National Survey of Computer Technology in Adult Literacy**

By CHRISTOPHER E. HOPEY, R. KARL RETHEMEYER, & JOYCE HARVEY-MORGAN

It is clear that the use of computer technology in adult literacy has moved beyond the consideration stage. Instead of speaking about technology in future terms, many adult literacy programs are embracing computer technology and grappling with the fundamental issues of access, training, curriculum integration, and electronic networking.

The Office of Technology Assessment's (OTA) report *Adult Literacy and New Technologies: Tools for a Lifetime*, one of the most comprehensive reports to date on the use of technology in adult literacy, has provided the field with a wealth of descriptive information on the types and applications of technology being used in adult literacy programs and the issues surrounding its implementation. *Literacy and Machines: An Overview of the Use of Technology in Adult Literacy Programs*, written by Terilyn C. Turner for NCAL, provides a history of the use of technology in adult literacy and an overview of available technologies and their application to the field as well as a discussion of the benefits and issues for using technology.

Technology is used widely among diverse types of adult literacy programs but is used on a limited basis within many of these programs.

NCAL has conducted a survey of computer technology in adult literacy to complement these important studies and to further examine the topic. Our goals in conducting the survey were to identify the extent and scope of computer technology use, to better understand the experiences and attitudes of adult literacy programs in implementing technology, and to do a systematic inventory of the types of computer technology currently in use.

The survey results presented are based on the responses of 515 adult literacy programs from six states (Pennsylvania, New York, Delaware, North Carolina, Illinois, and California) surveyed in the spring of 1994. The major findings, summarized here, indicate that technology is used widely among diverse types of adult literacy programs but that it is used on a limited basis within many of these programs.

(continued on page 7)

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Voices from the Field...

continued from page 1

Major Findings

- **Adult literacy programs are involved in a wide range of computer activities. The data indicates that a majority of programs (82%) use computer technology.**

There is no question that adult literacy programs are using computer technology. Of the 515 programs that responded, 82% reported using the computer for administrative activities (e.g., letter/report writing, data collection, or recordkeeping). Surprisingly, 66% of the programs use the computer for instructional activities, 31% use computer technology for student assessment, and 26% use computers for networking activities such as e-mail or file sharing. The use of computer technology is considerably higher than previously reported,[1] which is particularly encouraging since 43% of the respondents had a budget under $50,000.

However, the extent of instructional use is not uniform among program types. For example, 44% of literacy volunteer organizations use computers for instruction as compared to 88% of the programs administered by community colleges and 76% of those administered by public schools.

- **Across all types of programs and budget sizes, the majority of adult literacy programs are looking to expand their use of computer technology.**

When programs were asked to characterize their use of computer technology, less than 7% of them reported that they do not use computers and do not plan to in the near future. Exactly half characterized their use of computers as limited but indicated a desire to expand their computer use in the near future. An additional 14% reported that they do not use computer technology but would like to in the near future, and 23% of the programs responded that they use computers significantly. The results suggest that attitudes among literacy providers support the use and expansion of computer technology and that it is primarily other factors apart from attitude that inhibit its use. The results indicate that an increasing number of literacy providers see technology as an opportunity and not as an imposition.

- **Many obstacles inhibit the expansion of computer technology use. The lack of financial support to purchase computers is perceived as the strongest and most common obstacle among all types of programs and by both those who use and those who do not use computer technology.**

The lack of financial support for technology is a considerable obstacle. Survey respondents ranked it as the most important obstacle to the use and expansion of computer technology (mean of 2.78, on a scale of 1-3, 1 being not important and 3 being very important). The second most important obstacle to the use and expansion of computer technology is the lack of adequate training for staff and instructors (1.84), and the third highest rated obstacle is the inadequate amount of time for staff to learn how to use computers (1.80).

The results indicate that an increasing number of literacy providers see technology as an opportunity and not as an imposition.

- **Adult literacy programs that use computer technology perceive many advantages to its use.**

The strongest initial motivation for using technology was reported as the belief that computers could positively affect student learning. The highest ranked advantages for using computer technology in instructional activities include the availability of immediate and nonthreatening feedback to students, greater learning incentives for students, students learning at their own pace, increased student control over the learning experience, and improved quality of instruction. The data certainly indicate that adult literacy practitioners believe that computer technology has a positive impact on the learning experiences of students. Additional factors cited include improved student retention, recruitment, and participation.

- **The extent of student access to computer technology is an issue.**

Among the programs that use computer technology, 37% offer one or fewer hours of computer-based instruction per week; 89% offer five or fewer hours per week. When broken down by student population, only 37% of the programs provide computer-based instruction to ESL students as compared to 47% that offer computer-based instruction to ABE students. Unfortunately, 60% of the programs that use computer technology provide computer-based instruction to one quarter or less of their student body, while only 16% offer computer-based instruction to three quarters or more of their student body. The results suggest that student access to computers and equity of access among different population groups are major issues.

- **The amount and type of computer technology varies among adult literacy programs. In addition, a large number of programs use older low-end computer technology.**

Of the programs using computer technology, 64% use Apple or Macintosh computers, 80% use IBM-compatible computers, and 48% use a combination *(continued on next page)*

Voices from the Field...

continued from previous page

of both IBM and Apple. Close to half of the programs (47%) have Apple IIe or gs computers, while only 5% use a Macintosh Quadra or Centris. Surprisingly, 45% of the programs use IBM 386/486 machines, but 53% use older IBM PC/XT machines.

Overall, 57% of the programs using computer technology used *only* Apple IIe/gs, Macintosh SEs or IBM 286 or lesser machines. In other words, 57% of the programs used only low-end computers, hardware that does not have the capacity to use multimedia software and communications tools. On the upside, 42% of the programs using technology have CD-ROM capability, and 36% have a modem.

Conclusions: Looking to the Future

From our initial analysis, it appears that many adult literacy programs have a firm foothold in the use of technology. Technology is no longer a futuristic concept; the issues are now questions of opportunity, access, and effectiveness. However, too many programs use technology on a limited basis. In particular, community-based organizations and volunteer organizations do not use technology to the same extent as their counterparts in community colleges and school districts.

For most programs, those already making use of computers as well as those just starting out, there is a strong need for support and assistance in expanding the use of computer technology. First and foremost, programs need greater financial support. The data also indicate that many programs need information on available technologies, effective uses of computer technology for instruction, and software selection. Staff training is a crucial issue. Without high quality, hands-on training, many practitioners are unable to gain access to the technology and to use it to its full potential.

The data also suggest growing acceptance of newer technologies like multimedia. Many programs have new technologies like CD-ROMs and laser discs, the media upon which the newest and, in our opinion, some of the best software is operated.

In addition, there is considerable potential for expanded use of electronic communications. Almost 30% of the programs using technology use an inexpensive on-line computer service. The use of electronic communications could unite the field on-line. In the past, too few programs had computers; those that had the hardware often could not afford the subscription fee. The data clearly shows that many programs use computers for networking and that the equipment and low-cost access already exists to connect thousands more.

The data also suggest growing acceptance of newer technologies like multimedia.

To expand the use of computer technology, we must allocate additional financial resources, provide the expertise needed to develop new and more sophisticated software, and encourage extensive training and professional development opportunities. Finally, the field itself needs to share its own expertise by cataloging the successes and failures that programs experience, for the future of technology in adult literacy will be guided by the experiments we undertake today.

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[1] U.S. Congress, Office of Technology Assessment, *Adult Literacy and New Technologies: Tools for a Lifetime*, OTA-SET-550 (Washington, DC: U.S. Government Printing Office, July 1993.

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President Bill Clinton
Taken from:
Proclamation Text
The White House
International Literacy Day
September 8, 1994

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